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THE YELLOW WAGTAIL *MOTACILLA FLAVA* IN AUSTRALIA

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SUMMARY

The Yellow Wagtail is now a regular summer visitor to northern Australia. Australian records are briefly reviewed, and the first Western Australian specimen is described, one from a flock of fifty near Kununurra on 29 February 1980. It seems that nearly all Yellow Wagtails visiting western Indonesia and the western half of Australia belong to two subspecies, *Motacilla flava simillima* and *M.f. taivana;* a third subspecies *M.f. tschutschensis* has been collected in Indonesia and eastern Australia but its wintering grounds are largely unknown.

INTRODUCTION

It has become common practice in Australia for workers to identify to subspecies sight records of wintering Yellow Wagtails. While this should not be discouraged, little consideration has been given in most cases to the difficulties involved. Geographic variation in the Yellow Wagtail is highly complicated. Similar patterned populations recur in widely separated regions. Intergradation between many, sometimes sharply differentiated, forms has produced variable hybrids. There are also the problems associated with sex, age, wear, condition of moult and individual variation. A renewed study of geographic variation in this species is long overdue. Meanwhile we rely heavily on specimens collected in Indonesia and Australia to clarify the subspecific status of wintering birds in this region.

OBSERVATIONS AND SPECIMENS

Localities of specimens and sight records of the Yellow Wagtail in Australia are given in Fig. 1.

The first Australian specimen of the Yellow Wagtail, was collected by H.G. Barnard at Bimbi on the Dawson River, Queensland, on 10 June 1905. A.J. North described it as a new species *Motacilla barnardi.* In 1921 Hartert synonymized this name with his *Motacilla flava simillima.*

It was not until 55 years later that the Yellow Wagtail was again recorded in Australia. Lindgren and Slater (1961) saw one near the overflow of Yabbagoody Mill 11 km east of Derby, Western Australia, on 7 December 1960. The description of this bird was submitted to Ernst Mayr, who stated that it matched best with the race *M.f. tschutschensis* of far northeastern Siberia and Alaska.

Gill (1976) observed single birds and parties of two to four on the Innisfail aerodrome, Queensland, in November and December 1965. On 13 December 1965 she observed four Yellow Wagtails together and noted that they were all in different plumage stages and that none matched the two she had seen on 4 December. This demonstrates the difficulty in attempting to identify to subspecies field sightings of this species. Birds wintering in Australia arrive in November in their plain autumn plumage, acquired after a rapid six weeks moult in the breeding area (Voous 1950). The winter moult takes up to five months to complete and it is not until the end of March or early April that the birds finally reach full breeding plumage. During this period birds are in various stages of moult and may have many worn and faded feathers.

Crawford (1972) recorded a single bird at Fogg Dam in the Northern Territory on 4 February 1968, and between 15 and 21 December 1968 he saw groups of three to five birds at the nearby Harrison Dam.

Crawford and Parker (1971) published the first record of the Yellow Wagtail in the Northern Territory. This bird was in an open area of short grass with clumps of pandanus and small eucalypts at Harrison Dam, 56 km southeast of Darwin, on 9 December 1969. It was collected and sent to Mrs B.P. Hall of the British Museum (Natural History) who felt fairly confident that it belonged to the race *M.f. tschutschensis.* Mrs Hall also examined the Dawson River specimen and found it very close to specimens of *M.f. tschutschensis.*

In mid December 1971 and early November 1972 Mr J. Darnell observed single, immature Yellow Wagtails at the Mt. Goldsworthy sewage ponds in the Pilbara, Western Australia. Immatures are almost completely white on the under parts with little or no trace of yellow, and the uper parts are generally uniform greyish-brown or brown. Birds in this plain, mainly brown-and-white plumage are almost impossible to identify to subspecies.

Thompson (1978) recorded a single Yellow Wagtail feeding at the edge of a sewage pond at Sanderson, Darwin, on 8 October 1977, one at the same place on 12, 13 and 26 November, and two at Nightcliff, Darwin, on 29 November 1977. He also mentions another bird seen by Mr Jakobsen at Sanderson on 23 January 1976. The bird observed by Thompson on 26 November differed from the others seen by him in three respects: the supercilium was mainly yellow, the head was olive-brown with no trace of blue or grey, and the abdomen was yellow. Thompson suspected that this bird belonged to the east Siberian subspecies *M.f. taivana.* There is a good possibility that it was a *taivana*, as this race must surely reach Australia; however the characters used to identify it do not completely eliminate another Siberian subspecies *M.f. simillima.* Some *simillima* have yellow in the supercilium and a greenish-grey head. The under parts of adult *simillima* are generaly slightly paler than adult *taivana* in corresponding plumage, but it is doubtful whether wintering birds of these two subspecies could be reliably separated in the field.

Blackwell and Yates (1979) reported on a Yellow Wagtail in breeding plumage at Richmond, New South Wales, on 29 April 1979. Because no superciliary stripe was observed the bird was identified as *M.f. thunbergi.* As this is a European subspecies that winters mainly in Africa, the subspecific identification is improbable.

Moffatt (1981) reported on a male in breeding plumage on the northeastern side of Heron Island, Queensland, on 27 June 1979. He identified it as *M.f. tschutschensis;* however there is little in his description that precludes *M.f. simillima,* and I also doubt that these two subspecies can be separated in the field.

McKean (1980) saw a Yellow Wagtail on Sandy Island, Scott Reef, in the Timor Sea on 7 November 1979. It was in eclipse plumage, brownish on the upper parts including the rump, off-white on the under parts, and with a stripe above and below the eye. He observed another bird briefly on East Island, Ashmore Reef, Western Australia, on 9 November 1979. No doubt these birds were on passage to Western Australia.

On 29 February 1980 Mr K.G. Brennan of the Department of Agriculture collected one of a flock of about fifty Yellow Wagtails in the Ord River irrigation area near Kununurra, Western Australia. They were associating with large groups of Horsfield's Bushlarks *(Mirafra javanica)* in what Mr Brennan described as "old maize stubble, sparse regeneration, very wet and muddy". The specimen was frozen and sent to the Western Australian Museum where it was prepared into a study skin (A16500).

Mr Brennan took the following notes in life, iris red-brown, bill grey, tarsus and toes green-grey, toes yellowish underneath. Other details of the specimen are as follows: immature male (testes 1.0 x 0.5 mm), skull with two small unpneumatised areas, total length 17.8 cm, wing 82 mm, tail 70 mm, entire culmen 19.5 mm, tarsus 25mm, hind claw 11 mm and weight 16.5 g. Head greyish-green (only slightly darker than back); a distinct whitish-yellow eye-stripe from lore to above ear; ear coverts grey; mantle and back greenish-grey, becoming olive green on rump; tail mostly blackish-brown (some feathers edged finely with yellow), outermost feathers almost pure white; wings brownish-grey, the coverts edged yellow, forming a wing stripe. Many chin and throat feathers are missing but those remaining on the chin are whitish-yellow, and on the throat yellow; breast grey (darker than belly), some feathers tipped white, yellow or olive; belly mostly white with several bright yellow blotches; flanks olive green; vent yellowish-white.

This is the first Yellow Wagtail specimen from Western Australia. Mrs Mary LeCroy of the American Museum of Natural History, New York, kindly identified it to subspecies. Her comments were "It is *M.f.simillima* without doubt. It has the long bill, dark breast and more extensive greenish back of that race."

A Yellow Wagtail was sighted by Mr P. Curry on 28 February 1981 at Herdsman Lake, near Perth, Western Australia.

On 25 and 26 October 1981 Mr E. Adamson observed a flock of 8-10 Yellow Wagtails at Broome, Western Australia. Two of these had yellow under parts but the rest appeared to be immature with grey under parts.

On 12 and 13 November 1981 L.A. Smith and R.E. Johnstone observed two Yellow Wagtails at the Shay Gap sewage ponds in the Pilbara, Western Australia. One was brownish on the upper parts and had only a trace of yellow on the under parts. The other was greenish-grey on the head, bluish-grey on the back and had yellow under parts.

Figure 1. Map of Australia showing localities of specimens (full circles) and sight records (hollow circles) of *Motacilla flava*: 1 Richmond, 2 Bimbi, 3 Heron Island, 4 Ayr, 5 Innisfail, 6 Harrison Dam and Fogg Dam, 7 Darwin, 8 Kununurra, 9 East Island (Ashmore Reef), 10 Sandy Island (Scott Reef), 11 11 km E of Derby, 12 Broome, 13 Mt. Goldsworthy, 14 Shay Gap, 15 Herdsman Lake.

DISCUSSION

From these accounts it appears that the Yellow Wagtail is a regular visitor to northern Australia. The recent increase in sightings is no doubt partly due to the fact that there are now many more observers in the north during the wet season. It could also be due to the big increase in suitable habitat, such as the Ord River irrigation area. Having found good conditions, birds may be expected to return in following years, incidentally introducing their own young to such areas. This appears to be the case in New Guinea, where Hoogerwerf (1964) found that the Yellow Wagtail had become a regular visitor to the rice fields of southern West Irian. In Queensland it is now a regular visitor to the marshy areas around Ayr (Storr 1973).

In the past the Yellow Wagtail has been divided into as many as seven species and into numerous subspecies. At present workers are still undecided whether

we are dealing with one or more species. Many divide the Yellow Wagtail into two species, the yellow/headed form being treated as a separate species *(lutea)*. This division on the basis of head colour requires confirmation with other characters. Geographic variation within this species is very irregular with similar populations occurring in very widely separated regions, such as nominate *flava* in Europe and *simillima* in far eastern Siberia. However other subspecies intergrade and are merely points along a cline. Isolated sightings and specimens of wintering birds add little to our knowledge of the geographic variation within this species. What is needed now are field studies and adequate collections from breeding areas. Meanwhile it is probably best to place all forms in one species.

Voous (1950) found that the Yellow Wagtails wintering in Indonesia were 61% *M.f. simillima* and 37% *M.f. taivana;* the rest were *M.f. tschutschensis, M.f. zaissanensis* and *M.f.macronyx*. Voous was able to identify to subspecies all adult specimens that were correctly sexed and dated; however about 65% of young birds could not be identified.

Voous (1959) found the frequency of adult specimens in Borneo as 77% *M.f. taivana*, 20% *M.f. simillima*, one *M.f. tschutschensis* and a possible hybrid *M.f. taivana* x *simillima*. However Smythies (1968) noted that from March when adult birds are acquiring their summer plumage, *M.f. simillima* greatly outnumber *M.f. taivana* in the Kimanis Bay area.

White (1977), writing on the migration of Palaearctic passerine birds in Wallacea, found that of the seventy-three specimens of Yellow Wagtail from this region most were grey-crowned *simillima* where racial identification was possible. Nine specimens from Sulawesi, Butung, Ambon, Tanimbar and the Kai Islands were green-crowned *taivana*. None from this area have been identified as *tschutschensis*. Therefore most birds reaching Australia (or at least its western half) must be *simillima* (see Fig. 2) and *taivana* (see Fig. 3).

Figure 2. Map showing breeding range (hatched) and wintering range (encircled) of *M.f. simillima*.

Figure 3. Map showing breeding range (hatched) and wintering range (encircled) of *M.f. taivana*.

Figure 4. Map showing breeding range (hatched) and wintering records (spots) of *M.f. tschutschensis*.

There are only three Indonesian specimens of *M.f. tschutschensis*: one from Borneo collected at Satang Island near Kuching, Sarawak, and two collected from the same flock near Bogor, western Java (see Fig. 4). It is evident that the main winter range of *M.f. tschutschensis* lies outside the western half of Indonesia. Many Palaearctic migrants have fairly direct north-south migration routes as in the Japanese Snipe *(Gallinago hardwickii)* and Swinhoe's Snipe *(Gallinago megala)*, Frith (1977). Consequently one would expect the incidence of *M.f. tschutschensis*, which is the most northern and eastern subspecies (see Fig. 4) to be much higher in New Guinea and eastern Australia than in Western Australia. This however does not appear to be the case. Mees (in press) has studied the seven specimens collected by Hoogerwerf in southern West Irian and confirmed that they all belonged to *M.f. simillima*, so far the only subspecies known from New Guinea.

The principal wintering grounds for *M.f. tschutschensis* largely remain a mystery. Further collecting in the Philippines, New Guinea and Australia will hopefully throw some light on this problem.

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REFERENCES

BLACKWELL, G., and N. YATES. 1979. A Yellow Wagtail near Richmond. *Aust. Birds* 14 : 35-36.

CRAWFORD, D.M. 1972. Birds of Darwin area, with some records from other parts of Northern Territory. *Emu* 72 : 131-148.

CRAWFORD, D.M., and S.A. PARKER. 1971. First record of the Yellow Wagtail in the Northern Territory. *Emu* 71: 142.

FRITH, H.J., F.H.J. CROME, and B.K. BROWN. 1977 Aspects of the biology of the Japanese Snipe *Gallinago hardwickii. Aust. J. Ecol.* Vol. 2 (3) : 341-368.

GILL, H.B. 1976. The Yellow Wagtail *Motacilla flava* in northern Queensland. *Emu* 66 : 369-371.

HARTERT, E. 1921. *Die Voegel der palaearktischen Fauna*, Vol. 3 Friedlander: Berlin.

HOOGERWERF, A. 1964. On birds new for New Guinea or with a larger range than previously known. *Bull. Brit. Orn. Club* 84 : 153-161.

LINDGREN, E., and P. SLATER. 1961. Yellow Wagtail *(Motacilla flava)* at Derby. *West. Aust. Nat.* 8 : 36-38.

McKEAN, J.L. 1980. Oceanic ornithological survey between Derby, W.A. and Darwin, N.T. *Northern Territory Naturalist* 1 (3) : 8-13.

MEES, G.F. (In press). Birds from the lowlands of southern New Guinea (Merauke and Koembe). *Zool. Verh.*

MOFFAT, J.D. 1981. Yellow Wagtail *Motacilla flava* on Heron Island, Qld., with notes on the status of southern individuals. *Emu* 81 : 47-48.

PETERS, J.L. 1960. *Check-list of birds of the World*, Vol. 9. Cambridge, Mass. :Mus. Comp Zool.

SMYTHIES, B.E. 1968. *The Birds of Borneo.* Oliver & Boyd: Edinburgh.

STORR, G.M. 1973. List of Queensland Birds. *West. Aust Mus. Spec. Publs.* No. 5.

STORR, G.M. 1977. Birds of the Northern Territory. *West. Aust. Mus. Spec. Publs.* No. 7.

STORR, G.M. 1980. Birds of the Kimberley Division, Western Australia. *West. Aust. Mus. Spec. Publs.* No. 11.

THOMPSON, H.A.F. 1978. Further records of Palaearctic species in Darwin. *Sunbird* 9 : 54-59.

VAURIE, C. 1957. Systematic notes on Palaearctic birds. No. 25. Motacillidae: the genus *Motacilla. Am. Mus. Novit.* No. 1832 : 1-15.

VOOUS, K.H. 1950. The races of Yellow Wagtail *(Motacilla flava)* wintering in the Indo-Australian Archipelago. *Treubia* 20 : 647-656.

VOOUS, K.H. 1959. Yellow Wagtails in Borneo. *Sarawak Mus. J.* 9 (13-14) : 252-256.

WHITE, C.M.N. 1977. Migration of Palaearctic birds in Wallacea. *Emu* 77 : 37-38.